

## NOTEWORTHY COLLECTION

### CALIFORNIA

*FROELICHIA GRACILIS* (Hook.) Moq. (AMARANTHACEAE).—Shasta Co., along both sides of Collyer Drive and College View Drive (frontage roads on the N and S sides of State Hwy 299) for a distance of 1400 m centered between the Hwy 299/Old Oregon Trail interchange and the Hwy 299/Churn Creek Road interchange, City of Redding, 40.617896°N, 122.333916°W, elev. 200 m, 4 Nov 2013, *J. Luper 001* (JEPS), identified by Donald Burk and confirmed by Mihai Costea. The population consists of several thousand plants established along gravelly road shoulders; associates include other ruderal species such as *Cynodon dactylon* (L.) Pers., *Dittrichia graveolens* (L.) Greuter, *Eragrostis cilianensis* (All.) Janch., *Erodium cicutarium* (L.) Aiton, *Erodium botrys* (Cav.) Bertol., *Heliotropium europaeum* L., *Kickxia elatine* (L.) Dumort., and *Senecio vulgaris* L.

*Previous knowledge.* *Froelichia gracilis* (slender snake-cotton, cottonweed) is known as an historical waif in California based on specimens collected along the Santa Fe Railway in San Dimas, Los Angeles Co., June 1955 (CCH 2013). The species is native to the midwestern U.S., and extends from Iowa, Nebraska, and Colorado, south to Texas, New Mexico, and Arizona (Kartesz 2013) and into Mexico (McCauley 2003). The species has now spread to most states east of the Mississippi River (Kartesz 2013). Blake (1956) attributed railroads as the principal dispersal mechanism for the eastern spread of the species. *Froelichia gracilis* is also naturalized in Europe, Japan, the West Indies, and in Queensland, Australia (Csurhes and Zhou 2008). *Froelichia gracilis* is listed as invasive by the State of Connecticut (Connecticut Invasive Plant Council 2011).

*Significance.* This is the first report in California since 1955, and the first report ever in northern California, representing an 800 km range extension. Based on the number of individuals and distribution along the roadways, this population of *F. gracilis* appears to have been present for at least several years. *Froelichia gracilis* is adapted to open disturbed habitats, with sandy or gravelly soils, such as roadsides, railways, and degraded pastures (Blake 1956, Csurhes and Zhou 2008). These conditions are broadly represented throughout California. Similar to the spread associated with railways, this

occurrence adjacent to State Hwy 299 could contribute to the species' range expansion in California. McCauley (2003) notes that the species' adaptation to open sandy or gravelly soils should restrict its spread to open sites with poor soil. A similar finding was made regarding the potential spread of the species in Australia, with overgrazed pastures being identified as likely colonization sites (Csurhes and Zhou 2008).

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